Functorial constructions of double Poisson vertex algebras

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1. Abstract

To any double Poisson algebra we produce a double Poisson vertex algebra using the jet algebra construction. We show that this construction is compatible with the representation functor which associates to any double Poisson (vertex) algebra and any positive integer a Poisson (vertex) algebra. We also consider related constructions, such as Poisson reductions and Hamiltonian reductions. This allows us to provide various interesting examples of double Poisson vertex algebras, in particular from double quivers.
This is a joint work with Tristan Bozec and Maxime Fairon.